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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,881	07/18/2003	Sunil G. Warrior	02-510	2745
34704	7590	08/30/2006	EXAMINER	
BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			HODGE, ROBERT W	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 08/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/622,881	WARRIER ET AL.	
	Examiner	Art Unit	
	Robert Hodge	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-21 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) 13-21 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 9-12 and 24-26 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/27/06 has been entered.

Response to Arguments

Applicant's arguments, see Remarks/Arguments, filed 7/27/06, with respect to the rejection(s) of claim(s) 1, 9-12 and 24-26 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 6,074,771. The Examiner acknowledges that applicants have overcome the objection to claim 26 and claim 22 has been canceled therefore any rejection of claim 22 is now moot.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 9-12 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,074,771 hereinafter Cubukcu in view of U.S. Patent No. 6,139,810 hereinafter Gottzmann.

Cubukcu teaches a solid oxide fuel cell comprising at least two fuel cells each comprising an electrolyte having anode and cathode layers on respective sides and at least one bipolar plate between the at least two fuel cells. Cubukcu also teaches the necessity of sealing the fuel cells properly to prevent gas leakages (abstract, column 4, line 61 – column 7, line 44 and column 13, line 6 et seq.).

Cubukcu does not explicitly teach all of the specifics of the seal used for sealing between the plates.

Gottzmann teaches a solid oxide fuel cell stack with at least two fuel cell components being a separator and a fuel cell, that are sealed with a continuous fiber tow wrapped into a closed loop structure (i.e. twisted rope seal) forming a substantially gas impermeable seal between the two components, wherein at least two fibers are in a substantially concentric relationship with each other, also comprising a compression stop extending from one of the fuel cell components to another fuel cell component that

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is frame like in shape as well as a groove to hold the seal member, with dimensions similar to those found in claim 12 and that said seal can be compressed (figures 1-4, and column 7, line 8 – column 10, line 35).

At the time of the invention it would have been obvious to a person having ordinary skill in the art to include the teaching of the sealing mechanism used in the Gottzmann reference in the Cubukcu reference in order to properly seal the fuel cell stack and prevent any of the reactant gases from leaking out of the stack thus preventing any explosion hazards.

Claims 2, 3, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cubukcu in view of Gottzmann as applied to claims 1, 9-12 and 24-26 above, and further in view of U.S. Patent No. 4,640,875 hereinafter Makiel.

Cubukcu and Gottzmann do not explicitly teach the material composition of the seal.

Makiel teaches a seal for a solid oxide fuel cell situated substantially perpendicular between a separator and a fuel cell component, wherein the seal comprises an oxide ceramic, or an alumina fiber that are substantially continuous and concentric, wherein the fibers can be impregnated with Ni, Cr, and Fe. Makiel also teaches the use of a compression stop (or lip) and a groove (or lands) for said seal member as well as a frame used in the system near the seal (figures 1-5, column 1, line 54 – column 8, line 2 and claim 1).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the teachings of the Makiel reference in the Cubukcu reference

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in order to provide a seal that is composed of well known materials that are resilient and durable and would not have to be replaced very often, which would require shutting down the fuel cell system.

Allowable Subject Matter

Claim 5 is allowed.

Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The reasons for indicating allowable subject matter can be found in the final office action dated 10/19/05.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Hodge whose telephone number is (571) 272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER

RWH